

additional fees are due for the requested extension of time, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Objections to the Drawings

The Examiner objected to the drawings because they did not include reference numbers 66 and 68. In response, the Applicant submits herewith a Request for Approval of Drawing Changes, with corrections indicated in red ink. The Applicant revised Fig. 2 by adding reference number 66, indicating the longitudinal rib members described in the specification. The Applicant also amended the specification to delete each instance of reference number 68. On page 22, reference number 68 should have read reference number 70 when referring to "inwardly-directed elements", and reference number 70 should have read reference number 72 when referring to "rims". The specification has been amended to correct this typographical error. It is respectfully requested that these amendments to the specification and drawings overcome the Examiner's drawing objections.

Objections to the Specification

The Examiner objected to the specification due to certain inconsistencies. In response, the Applicant amended the specification in accordance with the Examiner's proposed language. With respect to pointing out the units of the measurements described in page 21, lines 17 and 19 and page 25, lines 24 and 26, the Applicant amended the objected-to language to clarify that the units are degrees (°). With respect to the Examiner's suggestion that the Applicant state "the cap 26" instead of "the lid 26", the Applicant amended page 21, line 13 to state "the lid or cap 26", so as to preserve support in the specification for certain language used in the claims. It is respectfully believed that these amendments overcome the Examiner's objections to the specification, and do not add any new matter.

35 U.S.C. § 112 Rejections

Claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph. As to claim 1, the claim (as preliminarily amended) lacked antecedent basis for “said diameter of the elongated main body portion”. In response, the Applicant amended claim 1, line 4 by changing “said diameter” to – a diameter –. Claim 23 was similarly amended. Claim 5 (as preliminarily amended) lacked antecedent basis for “said outer wall”. In response, the Applicant amended claim 5, line 2 by changing “said outer wall” to – an outer wall –. It is respectfully submitted that these amendments overcome the Examiner’s rejections under 35 U.S.C. § 112, second paragraph.

35 U.S.C. § 103 Rejections

The Examiner rejected claims 1-3, 5, 7-9, 23 and 24 under 35 U.S.C. § 103 as being unpatentable over Ramm, U.S. Patent No. 3,633,943. According to the Examiner, Ramm discloses all of the elements of claims 1 and 23, with the exception that it does not teach that the main body is elongated. The Examiner further argues that a change in size of a prior art device is a design consideration within the skill of the art, and therefore claims 1 and 23 would have been obvious from Ramm.

In response, the Applicant has amended claims 1 and 23 to more clearly distinguish over Ramm. First, the preamble of each of these claims has been amended to state that the tee is for use at the inlet or outlet of a septic tank. Next, the claims were amended to state that the tubular opening is adapted to receive a filter therein. Lastly, these claims were amended by adding language stating: --the inlet/outlet port having an inlet/outlet hub at an open end thereof, said inlet/outlet hub having a diameter sized so as to receive a pipe of a first outer diameter and being adaptable to receive a pipe of a second outer diameter, said diameter of the inlet/outlet hub being greater than the diameter of the elongated main body portion--. Nothing in Ramm discloses or suggests the benefits of such additional features.

For the first time, a tee for use in a septic tank for receiving a filter can be made of a reduced wall thickness over most of its length, and include sturdy hubs that are sized to accommodate standard pipe sizes, such as SDR 35 pipe in the top hub, and Schedule 40 pipe in the inlet/outlet hub. Furthermore, as explained in detail in the specification, the inlet/outlet hub is easily adaptable, for example by way of a bushing, to fit smaller sized pipe. Although the Examiner argues that the change in size of a prior art device is within the skill in the art, this is not a case, particularly in light of these amendments, in which the claims set forth a tee that is merely smaller or larger than the tee disclosed in Ramm. By having an elongated main body portion, which is adapted to receive a filter therein, one does not need to waste substantial lengths of pipe to haphazardly piece together a filter housing at the time of installation of a septic tank. The claimed tee can be used as the filter housing for a wide variety of commercially available effluent filter cartridges particularly useful at the outlet of septic tanks, without the need for attachment of any supplemental lengths of pipe (cut from a standard 8' or 10' section, with the remaining unused portion normally being wasted). It is respectfully submitted that claims 1 and 23, as amended, are therefore allowable over Ramm, as are claims 2, 3 and 5, which depend from claim 1, as amended.

The Applicant canceled claims 7-14.

Regarding claim 4, the Examiner argues that Ramm teaches the invention substantially as claimed, except that Ramm fails to teach that the inlet/outlet port includes an outlet opening and a sweep portion arcing upwardly from the elongated main body toward a ring defined by the outlet portion. However, according to the Examiner, Zoeller, U.S. Patent No. 6,136,190, discloses a sweep portion arcing upwardly from the elongated main body toward a ring defined by the outlet portion. The Applicant respectfully submits that Zoeller is typical of the prior art over which the claimed tee is a great improvement. As shown in FIGS. 1 and 4 of Zoeller, and described in column 4, lines 54-58, an expansion piece (30) is

added to the tee, in order to extend the tee down to a designated depth of liquid and effluent within the septic tank.

The Applicant's claimed tee obviates the need for a separate expansion piece because it includes an elongated main body portion. A further benefit is that, in the event even additional length is desired, a reducer bushing may be used as an adapter at the lowermost end of the elongated main body portion, for easy securement of an additional length of pipe. In addition, the Examiner argues that using a sweep portion arcing upwardly in Ramm, as taught by Zoeller, would have been obvious because it would only be change in shape, and would not make a change in the flow of a fluid through it. The Applicant respectfully traverses the Examiner's rejection. The sweep portion of the tee assists in directing effluent either into the septic tank, when the tee is used at the inlet of the tank, or, when the tee is used at the outlet of the tank, the sweep portion assists in directing effluent from the effluent filter out of the tee and into the drain tube. Thus, it is submitted that the change in shape does, in fact, make a change in the flow of fluid through the tee.

As to claims 6 and 18, the Examiner argues that, although Ramm fails to disclose the use of a reducer bushing received on the inlet/outlet port, the use of a reducer to connect two conduits of different diameters was known from Eagon. Therefore, according to the Examiner, it would have been obvious to use a reducer member in the inlet/outlet port of Ramm, as taught by Eagon, in order to connect conduits of different diameters to the inlet/outlet port.

The Examiner's application of the teachings of Eagon to the tee disclosed in Ramm appears to be impermissible hindsight reconstruction. Nothing in Ramm suggests the benefit of using a reducer bushing in order to accommodate conduits of different diameters. To the contrary, one reading Ramm might interpret the bell end openings of the tee to have stepped openings to accommodate conduits of different diameters (see FIG. 2), thereby avoiding the

need to use reducer bushings to accommodate conduits of different diameters. This teaches away from the Examiner's proposed combination.

Furthermore, there are several drawbacks of such stepped openings. For example, greater wall thickness (and hence, wasted extra molding material) is required in those portions of the stepped opening sized to accommodate smaller diameter pipe. Also, the point of contact between the tee and the conduit received in the opening varies in such stepped openings depending on the diameter of the pipe. Wider outer diameter pipe would be received in a complementary region of the inlet/outlet port of Ramm that is closer to the outside edge of the tee than a region of the inlet/outlet port that would receive a narrower outer diameter pipe. It is therefore respectfully submitted that claim 18 is patentable over the Examiner's proposed combination of Eagon and Ramm.

The Examiner rejected claim 20 as being unpatentable over Ramm and Zoeller in view of Nurse, U.S. Patent No. 5,482,621. According to the Examiner, while Ramm as modified by Zoeller fails to teach the lowermost end extends into a clear zone of a septic tank, Nurse teaches that the lowermost end of the main body extends into a clear zone of a septic tank, and Zoeller teaches a two piece device, wherein a pipe has an end extending into the clear zone. It is respectfully submitted that the Applicant's one piece construction is not merely doing as one piece what was previously accomplished with separate elements fastened together. To the contrary. By utilizing a one-piece construction wherein thin walls can be provided over a large portion of the elongated main body, yet still provide relatively thick hub portions, the Applicant's claimed tee acts as a two piece construction but with substantially less molding material than was previously required, while significantly reducing waste. By extending the integral main body into the clear zone, rather than a separate, fastened pipe extension, there is also less chance for effluent to bypass an effluent filter positioned within the tee.


Allowable Claims

The Applicant notes, with appreciation, the Examiner's indication that claims 11 and 12 would be allowable if rewritten to overcome the rejections under Section 112 and to include all the limitations of the base claim and any intervening claims. While claims 11 and 12 have been cancelled, new claims 25-27 have been added, with new claim 25 including the features of claim 10, new claim 26 including the additional features of claim 11, and new claim 27 including the additional features of claim 12. It is respectfully submitted that claims 26 and 27 should be considered allowable for the same reasons as claims 11 and 12, now cancelled.

CONCLUSION

In addition to the \$460.00 in extension of time fees, the Applicant submits herewith \$27.00 for the additional claims in excess of twenty. In the event any further fees are necessary, kindly charge the cost thereof to our Deposit Account No. 13-2855. Based on the foregoing, it is respectfully submitted that the claims still pending in the application are in condition for allowance. The Examiner's reconsideration and favorable action are respectfully requested.

Respectfully submitted,


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Dated: May 28, 2002


Laura Frasher



VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

On pages 15-16, please amend the carry-over paragraph as follows:

In order to provide an easy-to-assemble tee baffle, the tongue-and-groove fitting is preferably a clearance fit. In the preferred embodiment, the raised tongues 54 extending along each edge 44, 48, 52 of the second mating half 40 preferably has a width of about 0.045", while the respective grooves 56 along the edges 42, 46, 50 of the first mating half 38 preferably each has a width of about 0.075". The grooves 56 are also preferably deeper, by about 0.008-0.010", than the height of the raised tongues 54. The clearance fit of the tongue-and-groove connection facilitates assembly, and also provides adequate room inside the plastic weld joint to receive a sufficient quantity of the sealant to ensure a secure bond. The pairs of mating edges [24] 42, 44, 46, 48, 50, 52 cooperate to form elongated strengthening ribs 47 along the vertical axis of the tee baffle 10. Advantageously, each edge 42-52 of the two mating halves is provided with a flat elongated extension of the edge outwardly of the tongue 54 and outwardly of the groove 56, as shown in FIG. 4. The flat extension portion 58, preferably having a thickness of about 0.130", provides a pair of smooth, sealant-receiving surfaces to extend the region, i.e. extent of interconnection of the mating halves 38, 40.

On page 16, please amend the first full paragraph as follows:

The [elongated] flat extensions 58 of the edges 42-52 also provide locations on the exterior of the tee baffle for clamping the mating halves to one another during assembly, i.e. primarily during curing of the sealant. The [elongated] flat extensions 58 of the seam result in an effective gluing surface for each edge of the two mating halves 38, 40 that is preferably about 0.250" in width dimension. Thus, while most of the wall area of the assembled tee 10 of the present invention advantageously has a reduced wall thickness, i.e. preferably on the

order of 0.075"-0.100", and most preferably approximately 0.090", the seams still have an increased wall thickness more commensurate with the wall thickness of traditional pipe tees. As a result, the connecting seams of the sanitary tee 10, which might otherwise be considered weak portions of the tee, instead have strength characteristics similar to conventional pipe tees.

On pages 19-20, please amend the carryover paragraph as follows:

Although both the inner and outer surfaces of the elongated main body portion 24 of the sanitary tee 10 can be tapered inward in the vicinity of its lowermost end 22, this need not be the case. The elongated main body portion 24 of the tee baffle 10 can instead have a uniform diameter. The lowermost end region can be advantageously coupled with a bell end of schedule 35 pipe, which pipe end can be glued in place to further extend the elongated main body portion 24 of the sanitary tee 10, if needed. Alternatively, a straight coupler fitting can be solvent-welded to the lower end region of the tee baffle, and any desired length of straight schedule 35 pipe could be solvent welded into the other end of the coupler fitting in order to increase the present tee 10 to the desired length. Also, the upper [lid-receiving end] hub 30 of the sanitary tee 10 is purposely open in order to provide access to an effluent filter 16, 18 housed within the sanitary tee, i.e. to facilitate its removal for cleaning, replacement, re-insertion, or other maintenance purposes. If desired, the upper hub 30 can be closed off with a standard pipe end plug (not shown).

On page 21, please amend the first full paragraph as follows:

The present invention sanitary tee 10 thus assists in resisting premature upward movement or ejection of the effluent filter. This is accomplished by providing inwardly directed flanges or projections along the tee's inner wall in the vicinity of the upper [lid-receiving end] hub 30 of the tee, just above a ridge formed in the tee over the top of the sweep opening at the outlet of the tee, where the tee widens to accept the lid or cap 26 of an

effluent filter. For example, securement means in the form of inwardly-directed raised buttons or ribs [68] would be provided on the inner wall of the hub of the tee. Preferably, these buttons [68] are located at approximately 20° and 200° (with the center of the outlet opening being at a 90° location relative to the opening at the top of the upper [lid-receiving end] hub 30).

On page 21-22, please amend the carryover paragraph as follows:

The cap 26 of the effluent filter 18 then would advantageously be provided with complementary recesses or openings to allow the cap 26 to pass over the buttons [68] or ribs during insertion or removal of the effluent filter. Then, in a bayonet fitting-type operation, once the cap of the effluent filter passes the ribs or buttons, the effluent filter is rotated to a secured position, so that the ribs or buttons lock the cap of the effluent filter in place on the ridge at the lower end of the hub of the tee, where the slanted ridge is provided.

On page 22, please amend the first full paragraph as follows:

An additional means for securing certain types of effluent filters within the tee 10 is to provide inwardly-directed elements [68] 70 on the smooth inner wall of the tee, such as in the form of rims [70] 72 that are undercuts of the elements [68] 70, which facilitate locking the sealing gasket of the effluent filter in place against the sanitary tee 10. For example, one commercially available single-pass effluent filter 18, as shown in FIG. 7, wherein the effluent only passes through filtering slits once, has a flexible sealing gasket 74 located near a lower end of the filter.

On pages 25-26, please amend the carryover paragraph as follows:

The vertical ribs 160 of the one-piece tee 110 (as well as the longitudinal ribs 66 in the two-piece tee 10) are preferably located at 180° to one another, but it is recognized that this need not be the case, and instead, for example, there may be three such ribs provided at 60° intervals between one another. The vertical ribs 160 of the one-piece tee 110 also

perform the same molded-in runner system benefit of the longitudinal ribs 66, by helping to distribute plastic along the tee 110 during injection molding.

In the Claims:

Please amend claim 1 as follows:

1. (Twice Amended) A tee for use at the inlet or outlet of a septic tank, the tee comprising:

an elongated generally cylindrical main body portion defining a tubular opening, the tubular opening being adapted to receive a filter therein;

a cylindrical uppermost hub coaxial with said elongated main body portion and having an inner diameter greater than [said] a diameter of the elongated main body portion; and

an inlet/outlet port in communication with the tubular opening, the inlet/outlet port having an inlet/outlet hub at an open end thereof, said inlet/outlet hub having a diameter sized so as to receive a pipe of a first outer diameter and being adaptable to receive a pipe of a second outer diameter, said diameter of the inlet/outlet hub being greater than the diameter of the elongated main body portion.

Please amend claim 4 as follows:

4. (Twice Amended) The tee of claim 1, wherein said inlet/outlet port includes [an outlet opening and] a sweep portion arcing upwardly from said elongated main body portion toward a ring defined by said inlet/outlet [opening] hub, said sweep portion defining an opening in communication with said tubular opening and said inlet/outlet [opening] hub.

Please amend claim 5 as follows:

5. (Twice Amended) The tee of claim 1, further comprising at least one horizontal reinforcement rib on [said] an outer wall of the elongated main body portion.

Please cancel claims 7, 8, 9, 10, 11, 12,13 and 14.

Please amend claim 15 as follows:

15. (Twice Amended) A one-piece sanitary tee baffle comprising:
an elongated generally cylindrical main body portion defining a tubular opening, the tubular opening being adapted to receive a filter therein;
a cylindrical uppermost hub coaxial with said elongated main body portion and having an inner diameter greater than said diameter of the elongated main body portion; an inlet/outlet port in communication with the tubular opening, the inlet/outlet port having an inlet/outlet hub at an open end thereof, said inlet/outlet hub having a diameter sized so as to receive a pipe of a first outer diameter and being adaptable to receive a pipe of a second outer diameter, said diameter of the inlet/outlet hub being greater than the diameter of the elongated main body portion;
a first rib extending generally longitudinally along said elongated main body portion;
and
a second rib extending generally longitudinally along said elongated main body portion, said generally cylindrical main body portion having a wall thickness between 0.075" and 0.100" over a substantial portion thereof.

Please amend claim 17 as follows:

17. (Amended). The one-piece sanitary tee baffle of claim 15, in combination with a length of pipe received in said inlet/outlet [port] hub.

Please amend claim 18 as follows:

18 (Amended). The combination of claim 17, further comprising a reducer bushing between said inlet/outlet [port] hub and said length of pipe received therein.

Please amend claim 23 as follows:

23. (Amended) A tee for use at the inlet or outlet of a septic tank, the tee comprising:
an elongated generally cylindrical main body portion defining a tubular opening, the tubular opening being adapted to receive a filter therein;

a cylindrical uppermost hub coaxial with said elongated main body portion and having an inner diameter greater than [said] a diameter of the elongated main body portion;

an inlet/outlet port in communication with the tubular opening, the inlet/outlet port having an inlet/outlet hub at an open end thereof, said inlet/outlet hub having a diameter sized so as to receive a pipe of a first outer diameter and being adaptable to receive a pipe of a second outer diameter, said diameter of the inlet/outlet hub being greater than the diameter of the elongated main body portion;

an outer wall on said elongated main body portion; and

at least one horizontal reinforcing rib on said outer wall.

Please cancel claim 24.

Please add the following new claims:

-- 25. The tee of claim 1, wherein an intersection of the cylindrical uppermost hub and the main body portion defines a lid-receiving end, and in combination with an effluent

filter having a generally cylindrical profile, said effluent filter having a lid received in the lid-receiving end.

26. The combination of claim 25, wherein said effluent filter includes a sealing gasket engaged with an inner wall of the tee, and wherein said inner wall of the tee includes elements having locking rims to engage an outermost lip of said sealing gasket.

27. The combination of claim 25, wherein said lid-receiving end includes an inwardly directed locking flange, said locking flange being spaced a distance of at least a thickness of said lid of the effluent filter, and the lid of the effluent filter including a complementary recess to allow for insertion of said lid past said locking flange, whereby upon rotation of the effluent filter subsequent to insertion past the locking flange, said recess is out of alignment with said locking flange, and said locking flange prevents vertical movement of said effluent filter.--